ECHO
Environmental influences on Child Health Outcomes
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Study Summary

Sleep Habits Vary for Children Living in Medically Underserved Areas But Not in Rural Communities, ECHO Study Finds

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Who sponsored this study?

The Environmental influences on Child Health Outcomes (ECHO) Program, Office of the Director, National Institutes of Health supported this research.

Why was this study needed?

People who live in rural communities or in medically underserved areas often face challenges like long travel distances, limited medical services, and fewer health resources. A medically underserved area is defined as having too few primary care providers, high infant mortality, or high poverty and/or high elderly population. These barriers make it harder to get routine care and treatment, which can worsen existing health disparities between communities. Few studies have evaluated how living in a rural or medically underserved area shapes children's access to health-promoting resources. Because these geographic and healthcare barriers can influence key behaviors such as sleep, this study aimed to clarify how these conditions could contribute to differences in youth sleep health across the United States. Learning about these differences could help identify which groups may need more support and guide efforts to reduce health disparities.

What were the study results?

Children living in medically underserved areas tended to have different sleep patterns than those in communities with more resources. They generally went to bed later, woke up later, and were less likely to get the recommended amount of sleep for their age, especially among children ages 1 – 12 years. By contrast, differences between rural and non-rural children were small; rural children typically went to bed and woke up earlier, while preschoolers in non-rural areas slept longer overall because they napped more often. Bedtime habits were also mostly similar across all groups, though toddlers and teens in well-resourced areas were more likely to follow a regular bedtime routine, and preschoolers in underserved areas were more likely to use electronics before bed.

What was the study's impact?

This study suggests that living in a medically underserved areas may contribute to differences in children's sleep health, with youth in medically underserved areas reporting later bedtimes, later wake times, and lower rates of getting the recommended amount of sleep. In contrast, only small differences were observed between children from rural and nonrural communities, suggesting that rurality alone may play a smaller role in shaping sleep patterns. The slight differences in bedtime habits—such as routines and screen use—indicate that family practices may vary across communities but are not the

primary drivers of these sleep disparities. Together, these findings highlight the need for targeted efforts to support healthy sleep in medically underserved communities and suggest that researchers should continue to examine rurality and medically underserved status separately to better understand how different environments influence children's sleep.

Who was involved?

The study included 22,234 youth aged 1–17 years. Of these, 6,976 lived in a medically underserved area and 908 of them lived in areas that were both medically underserved and rural. Overall, 1,853 youth lived in rural communities, and roughly half (945) of these lived in rural areas that were not medically underserved.

What happened during the study?

Researchers used participants' residential addresses and federal guidelines to sort children into four groups based on whether they lived in rural areas, medically underserved areas, both, or neither. Using parent or self-completed questionnaires, they collected information about children's sleep, such as how long they slept, what time they went to bed and woke up, and how long it took them to fall asleep. They also asked about bedtime habits such as routines and screen use. The researchers then compared these sleep patterns across the different groups and looked at whether the results varied by age, from toddlers through adolescents.

Footnote: Results reported here are for a single study. Other or future studies may provide new information or different results. You should not make changes to your health without first consulting your healthcare professional.

What happens next?

Future studies could help communities develop effective sleep health programs, especially in medically underserved areas, potentially through daycares, community centers, and schools.

Where can I learn more?

Access the full journal article, titled "Exploring Sleep Outcomes in Youth Across Settings: Are There Differences based on Rurality or Medically Underserved Status in the ECHO Cohort?" in *Sleep Medicine*.

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